

Maturation of Structural Health Management Systems for Solid Rocket Motors, Phase I

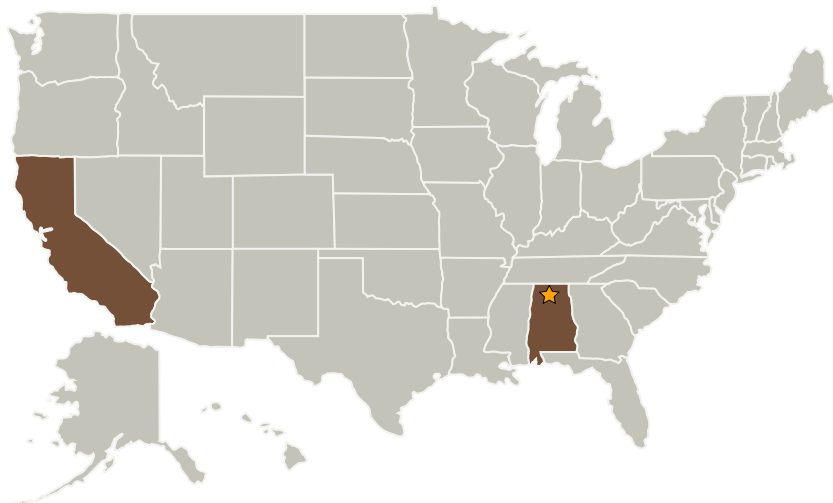
Completed Technology Project (2007 - 2007)



Project Introduction

Solid rocket motor cases are subject to a variety of external environmental and loading conditions from cradle-to-grave. These conditions can significantly impact the performance and decrease safety of the rocket motor. Fueling of the rocket motor adds an additional complexity in that inspection of the interior becomes impossible while creating the possibility of disbands between the case and fuel. These factors can have potentially catastrophic consequences for the space vehicle performance. Acellent Technologies is currently developing structural health monitoring systems to address this issue. The TRL at completion of the current technology development is anticipated to be TRL 5-6. The proposed program focuses on maturing the technology to a TRL level 7 for implementation on existing and future space transportation vehicles. The development will be conducted in close collaboration with ATK-Thiokol who fully support the developmental and commercialization efforts.

Primary U.S. Work Locations and Key Partners



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Marshall Space Flight Center (MSFC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Organizations Performing Work	Role	Type	Location
★ Marshall Space Flight Center (MSFC)	Lead Organization	NASA Center	Huntsville, Alabama
Acellent Technologies, Inc.	Supporting Organization	Industry Small Disadvantaged Business (SDB), Women-Owned Small Business (WOSB)	Sunnyvale, California

Primary U.S. Work Locations

Alabama	California
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Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX15 Flight Vehicle Systems
 - └ TX15.1 Aerosciences
 - └ TX15.1.5 Propulsion Flowpath and Interactions